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Elemental status in newborns and their mothers

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2018 Dynasty Publishing House. All rights reserved. Objective: To determine changes in the concentrations of vital elements: Mg, Mn, Cu, Zn, Cr, Sr and Se in plasma and erythrocytes of peripheral blood, and also the corresponding indices of cell membrane permeability in newborns and their mothers. Patients and methods: The observation included 149 pairs of newborns and their mothers. The group of study was divided into three subgroups according to infants' gestational age - 26-31, 32-34, 35-37 and 38-41 wks. Full-term infants and their mothers comprised the control group. We compared average quantitative signs for the grouping signs «gestational age» by elements: Mg, Mn, Cu, Zn, Cr, Sr and Se, and also the corresponding indices of cell membrane permeability. Results: The data we have obtained are indicative of the contribution of Mg, Mn and Zn to the formation of populations of children of varied gestational age. Intracellular Sr is regulated by the functional activity of cell membranes, which is indicative of its potential significance. A distinct tendency to increase with the increasing gestational age can be traced for plasma chromium. This fact might be used as one of the criteria for predicting pregnancy miscarriage. Conclusion: The results of the study are suggestive of a biological role of such elements as Mg, Mn, Zn, Cr and Sr in influencing the course of pregnancy and forming populations of newborns of varied gestational age.

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Keywords

Elemental ststus, Gestational age, Newborn, Parturient woman

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